PLANT IMMIGRANTS.

No. 163. NOVEMBER, 1919.

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Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by agricultural explorers and foreign correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,
Agricultural Explorer in Charge

Office of Foreign Seed and Plant Introduction,
Bureau of Plant Industry,
U. S. Department of Agriculture.

Issued November 1, 1919, Washington, D.C.

Acacia armata (Mimosaceae), 48035. **Kangaroo thorn.** From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. This simple-leaved, prickly acacia has a shrubby stem, 10 to 20 feet high, with graceful branches which are leafy to the tip. The long stamens give a soft fluffy appearance to the heads of opened flowers, which are borne on axillary peduncles longer than the leaves. This plant is much grown for hedges, though less manageable than various other hedge-plants and not so fire proof; it is more important for covering coast sand with an unapproachable prickly vegetation. The wood is small, but beautifully grained, sound and durable. Native in southern Australia. (Adapted from Maiden, Useful Native Plants of Australia, p. 349; and Curtis's Botanical Magazine, pl. 1653.)

Acacia cyanophylla (Mimosaceae), 48040. **Blue-leaved wattle.** From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. A handsome shrub from western Australia, 18 feet in height, with drooping branches and glabrous, lanceolate phyllodia; the lower ones are 1 foot, the upper, 6 inches in length. The numerous, large, golden yellow flowers are grouped in heads of 3 to 5 on short racemes. The pods are long and narrow. (Adapted from Bentham, Flora Australiensis, vol. 2, p. 364.)

Acacia elongata (Mimosaceae), 48042. From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. This slender curved-leaved acacia is a graceful species abundant on the Blue Mountains of New South Wales. It has drooping, angular branches, and the younger ones are green and glabrous. The phyllodia are long and linear and bear clusters of peduncled, globose heads of yellow flowers in their axils. These clusters, which so profusely cover the leafy branches, even to the tips, make this a remarkably ornamental plant. It is especially suitable for damp sandy land. (Adapted from Curtis's Botanical Magazine, pl. 3337.)

Acacia homalophylla (Mimosaceae), 48045. From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. A small tree, abundant on the barren heaths of the interior of New South Wales where it is one of the "spear-woods" of the natives. In Victoria, it grows on the saltbush

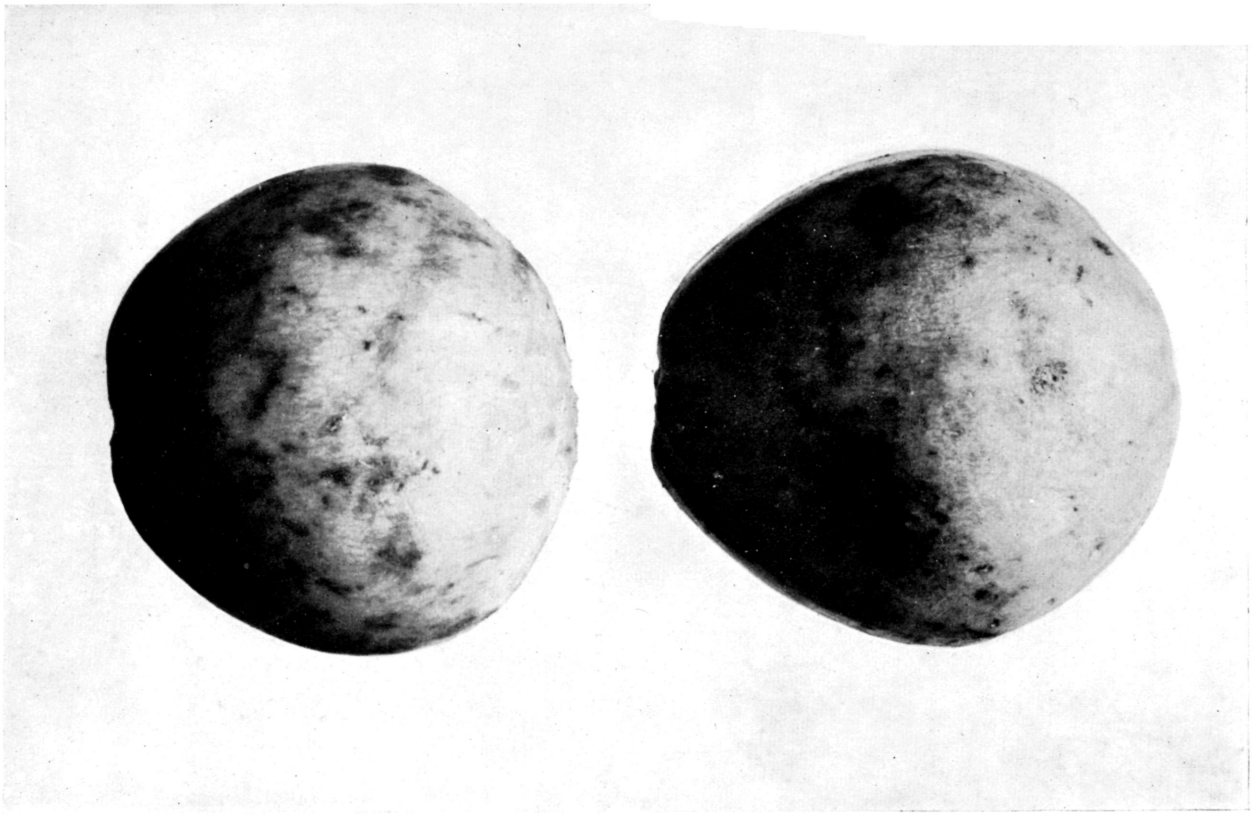
flats and yields the close-grained, prettily marked "Myallwood." The gum is eaten; and the hard, heavy wood is used for boomerangs. On account of its solidity and fragrance, this dark brown wood is much sought after for turners' work; perhaps its most extensive use is in the manufacture of tobacco pipes. It is well adapted for cabinet-making purposes, and fancy articles, such as rulers and napkin rings, are often made from it. It will grow in the bleakest and most arid localities wherever frost is not severe. (Adapted from Maiden, Useful Native Plants of Australia, p. 357; Mueller, Select Extra-Tropical Plants, p. 6; and Bailey, Queensland Flora, pt. 2, p. 495.)

Acacia longifolia (Mimosaceae), 48049. From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. An evergreen acacia from New South Wales, with a branching, ashy brown trunk, 20 to 30 feet high. The axillary flower spikes are shorter than the leaves and are so entirely covered with sessile, citron-yellow flowers that they resemble catkins. The faint odor of the flowers is similar to that of peach blossoms. This is a valuable ornamental and a good shade tree for narrow streets. The bark is used as a tan for light leathers. The rapid-growing tree renders important service in subduing loose coast sand, the lower branches striking root into the soil; it should be disseminated on extensively bare sand shores in regions where no severe frosts occur. The timber is light, tough, hard, and durable, and is used for tool handles, etc. (Adapted from Maund's Botanist, vol. 2, pl. 77; and Mueller, Select Extra-Tropical Plants, p. 7.)

Acacia melanoxylon (Mimosaceae), 48051. From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. An Australian hardwooded tree, attaining a height of 100 feet, though of slow growth; it sometimes flowers when under 20 feet in height. The lanceolate phyllodia, 3 to 4 inches long, are leathery and evergreen. The elongated flat pod is often curved into a circle; and the orbicular seeds, each encircled by double folds of a long dilated scarlet funicle, hang on the tree for months, making this pyramidal acacia a beautiful street tree. The mature wood, which is very dark, makes an excellent substitute for black walnut for furniture and grill-work, and is considered by some to be the most

A BASKETFUL OF CHOICE GUATEMALAN CHAYOTES. (CHAYOTA EDULIS, SEE S. P. I. NO. 43394.)

The chayote, or guisquil, is a favorite vegetable among the Guatemalans, being grown everywhere on large trellises. These large, smooth, green guisquils weigh a pound each and average $5\frac{1}{2}$ inches long. The rich green surface is nearly free from corrugations and entirely without prickles. It is one of the best Guatemalan varieties. (Photographed by Wilson Popenoe at the city of Guatemala, Guatemala, December 2, 1917; P17461FS.) (See Plant Immigrants No. 132 for an illustration of a chayote arbor.)



A SMOOTH FORM OF THE CHAYOTE. (CHAYOTA EDULIS, SEE S. P. I. NO. 43422.)

This remarkable variety, without the corrugations so characteristic of the usual forms of the chayote, was introduced by Mr. Wilson Popenoe from Guatemala. The attractive appearance and excellent quality of this smooth, white "guisquil perulero," as it is called by the Guatemalans, make it one of the best forms found in Central America. (Photographed by Wilson Popenoe at Guatemala City, Guatemala, October 4, 1916; P16837FS.)

valuable of all Australian timbers. It is celebrated for its hardness and durability and is much valued for boat-building, bridges, railroad carriages, tool handles, etc. The figured wood is cut into veneers. It is an excellent wood for bending under steam, and is largely used for oil casks. As a fuel, it is equal to hickory. (Adapted from Maiden, Useful Native Plants of Australia, p. 359; and Bentham, Flora Australiensis, vol. 2, p. 388.)

Acacia pycnantha (Mimosaceae), 48058. **Golden wattle.** From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. A small, rapid-growing tree, with coriaceous leaves (phyllodia) and masses of fragrant, bright yellow flowers. The tree is second only to *A. mollissima* in yielding tanners' bark. The bark is often superior in quality to that of the Black Wattle, but is thinner and less in quantity, as the tree is smaller, reaching its maximum height at 30 feet. It exudes an abundance of gum, useful in cotton-printing. Perfume is made from the flowers and an aqueous infusion of the bark is used to preserve ropes, nets, and fishing lines. The wood is pale and easily worked and is used for staves, tool handles, etc. The plant is useful as a sand binder. (Adapted from Maiden, Useful Native Plants of Australia, p. 364; and Mueller, Select Extra-Tropical Plants, p. 12.)

For previous introduction and description, see S. P. I. No. 45867, Plant Immigrants, No. 144, April, 1918, p. 1305.

Acacia riceana (Mimosaceae), 48060. From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. A Tasmanian shrub, in general appearance much like *A. verticillata*, 3 to 4 feet high, with elongated and gracefully drooping branches. The surface of the dark green awl-shaped leaves is covered with minute dots. The pale citron-colored flowers, on yellow peduncles and bearing many long exserted stamens, are in fluffy globular heads. The spikes are well down the stem from the tip and glimpses of the brown stalk between the daintily poised clusters remind one of Japanese art. (Adapted from Maund's Botanist, vol. 3, No. 135.)

Acacia senegal (Mimosaceae), 48064. From Tangier, Morocco. Seeds presented by M. Jules Goffart, Société d'Horticulture de Tanger. A tree widely distributed in tropical Africa and cultivated in India. It has

pinnate leaves and long, dense, clublike racemes of tiny flowers bristling with long stamens. This plant yields the true "gum arabic" of commerce, which is used for giving luster to crepe and silk, for thickening colors and mordants in calico-printing, in the manufacture of ink and blacking, as a mucilage, and for confectionery and medicinal purposes. It is more abundant in the dry season, exuding usually at the forking of the branches. In Kordofan, the gum is obtained from both wild and cultivated trees, and in the gardens the trees are artificially cut, strips of the outer bark being removed, shortly after the rains cease; the first collection of gum is made about 60 days after cutting and the garden is completely picked over every fourth day thereafter until the rains begin again and new leaves appear, at which stage the exudation ceases. The period of production is given at from 3 to 20 years, beginning when the trees are 3 or 4 years old. A plantation of about 10 acres has been estimated to yield from 1,200 to 1,500 pounds of gum in the course of a season. (Adapted from Holland, Useful Plants of Nigeria, pt. 2, p. 293; and Engler and Prantl, Die Natürlichen Pflanzenfamilien, vol. 3, pt. 3, p. 112, fig. 68.)

Astrocaryum sp. (Phoenicaceae), 47997. **Palm.** From Bogotá, Colombia. Seeds presented by Mr. M. T. Dawe. "In my recent journeys I came across a palm known as 'Güere.' It is found in the forests of the Darien country, and grows from sea level to altitudes of about 400 meters [1,300 feet]. The palm is about 10 meters [33 feet] in height and bears large, hanging racemes of scarlet-colored fruits, the nuts of which yield a useful oil." (Dawe.)

Berberis pruinosa (Berberidaceae), 48015. **Barberry.** From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. A robust evergreen shrub, probably 10 feet or more in height, native to southwestern China. Its leaves are of a leathery texture, up to 2½ inches long, lustrous green above, often grayish beneath, not unlike in general appearance those of the Himalayan *B. aristata*. It gets its name from the rich pruinose (plum-colored) bloom that covers the fruits. (Adapted from The Gardeners' Chronicle, Nov. 15, 1913.)

Beta vulgaris (Chenopodiaceae), 48022. **Sugar beet.** From Naarden, Holland. Seeds presented by Kuhn & Co.,

through Mr. Joseph W. Pincus. Introduced for variety tests being carried on by Department specialists.

The following table shows results of experimental tests with this variety:

	per cent of sugar.	beets per acre.	sugar (lbs.) per acre.
In Bohemia	19.37	35543	6885
In Zeeland, Holland	16.93	39677	6717

Elaeis guineensis (Phoenicaceae), 48001 to 48010. **Oil palm.** From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, chief, Plant Breeding Station. "I am mailing seeds of *E. guineensis*, which were collected from trees grown in our garden at Sumatra." (Cramer.)

This palm is very important economically. The fruit is used by the natives for food; the leafstalks and leaves for thatching houses; and the fleshy outer layer and kernels of the fruit each yield a commercial oil,- that from the fleshy part being the ordinary palm-oil used in the manufacture of soap and candles, and that from the kernels being the white or nut-oil used for making margarine or artificial butter. (Adapted from MacMillan, Handbook of Tropical Gardening and Planting, p. 538.)

See Plate No. 241, Plant Immigrants, No. 159, July, 1919.

Juglans cathayensis (Juglandaceae), 48014. From Rochester, N. Y. Seeds presented by Mr. John Dunbar, assistant superintendent of parks. "This Juglans is said to grow 70 feet tall, but it does not show any tendency to be arborescent here. Our plants, which were received from the Arnold Arboretum in 1911, are about 10 years old, 8 feet tall, and bushy in habit. They began bearing two years since. The nuts germinate readily." (Dunbar.)

Mimusops kauki (Sapotaceae), 48011. From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, chief, Plant Breeding Station. Seeds from big fruits. The taste resembles very much that of *Achras sapota*, but the fruit is not eaten very often by Europeans. It is a tree that likes to grow near the sea." (Cramer.)

Myrica rubra (Myricaceae), 48000. From Del Monte, Calif. Seeds presented by Mr. T. Lee, Hotel Del Monte. "The beautiful, dark purple fruits are the size of crab apples and can be eaten out of hand or made into compotes, pies, syrup, and wine. There is great variation in the habit and productivity of the trees and also in the color, size, and taste of the fruits. The trees are evergreen, and thrive best in well-drained rocky terraces. The localities that will best suit them in the United States will probably be the southern sections of the Gulf coast states and the milder parts of California. Chinese name 'Yang mae.'" (F. N. Meyer.)

For previous introduction and description, see S. P. I. No. 46571, Plant Immigrants, No. 150, October, 1918, p. 1364.

Phaseolus coccineus (Fabaceae), 48021. **Scarlet runner bean.** From Landing, N. J. Seeds presented by Mr. Hudson Maxim. "Chile beans which I secured from a member of the Du Pont Company, who traveled in Argentina and Chile. These beans grow in a wet district at a high altitude in the Andes, and are very frost resistant. From early August until the ground freezes in the fall one may have the very best of string beans from this variety, and the large, juicy pods, which are borne most prolifically, may be eaten even after they have been pretty well filled out with seeds. By the latter part of August, the beans are large enough to be used as limas, and they are superior to any that I know. The plants want very rich soil and an abundance of water, and climbing space; they reach a height of 20 feet or more. The dry beans are hard, plump, and glossy." (Maxim.)

Prioria copaifera (Caesalpiniaceae), 47998. From Bogota, Colombia. Seeds presented by Mr. M. T. Dawe. "Seeds of the 'Cativo' tree. This tree is abundant in the Gulf of Uraba, and yields a resin known locally as 'Cativa,' which is used for caulking boats. I understand that the tree is also found in the Canal Zone, so that it, or its product, is probably well known. I may mention that the tree is very abundant in the lowlands of this country and that the resin could be obtained in very large quantities should it possess any commercial value." (Dawe.)

Rheum sp. (Polygonaceae), 48020. **Rhubarb.** From Durban, Natal, South Africa. Roots purchased from

R. Mason & Son, through Mr. William W. Masterson, American consul. "A kind of garden rhubarb that is grown here, which will be a valuable introduction if similar results can be obtained with it in America. This rhubarb comes on in the early spring (October), — a tender and crisp plant that is used extensively for the table as it is with us; but, unlike our rhubarb, which soon becomes fibrous and tough, this rhubarb lasts about seven months and is as good during that time as when it first came on the market in the spring. I do not know whether this difference is caused by the climate, soil, or other local reasons, or whether it is another kind of rhubarb. I only know it is delicious, is invariably good and tender, and lasts over half the year." (Masterson.)

Saccharum officinarum (Poaceae), 47995. **Sugar cane.** From St. Croix, Virgin Islands. Cuttings presented by Dr. Longfield Smith, Agricultural Experiment Station. "'S. C.— 12/4.' We are getting splendid results here with our cane 'S. C. — 12/4.' We now have over 100 acres planted in this island. Plantations which have trial areas report from 25 per cent up to 90 per cent more sugar per acre than from standard cane." (Smith.)

For previous introduction and description, see S. P. I. No. 45513, Plant Immigrants, No. 141, January, 1918, p. 1270.

Notes on Behavior of Previous Introductions.

The following is an extract from a report, dated November 5, 1918, from Mrs. L. B. Grando, Montgomery, Ala.:

You sent me four seed chayotes (*Chayota edulis*) last spring and I planted them. Only two of the vines matured; on one there are some ninety-odd nearly mature chayotes, and the other has only ten ripe ones on it. My vines are bearing fruits almost twice as large as those sent from Florida and are now covered with blossoms and young fruits. These vines had very little attention this summer, except that I mulched them rather heavily before I left home for a month. They are the wonder of every one who has seen them; and the fruits are in great demand for seed. [See Plates 249 and 250.]

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION
WASHINGTON, D. C.

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B. T. Galloway, Plant Pathologist, in Charge of Detention Laboratories.
Peter Bisset, Plant Introducer, in Charge of Distributions.
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